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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,880	11/05/2003	Jonathan D. Albert	INK-024C1	6701

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EXAMINER	
LEWIS, DAVID LEE	

ART UNIT	PAPER NUMBER
2629	

DATE MAILED: 08/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/701,880	ALBERT ET AL.	
	Examiner	Art Unit	
	David L. Lewis	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/110/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 15-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Bryning et al. (5582700) in view of Ota (3668106).

As in claim 15, Bryning et al. teaches of an electrophoretic display, **figures 1, 9, and 11,**

comprising: a substrate, **figure 1 item 16**;

an electrophoretic display medium disposed adjacent said substrate, **column 6 lines 50-60, figure 1 item 12**

said display medium comprising a plurality of cells in a polymeric matrix, **figure 3 item 12**,

wherein at least one of said plurality of cells contains an electrophoretic contrast media phase, **figure 1 items 24, 26**, that includes a suspending fluid, **figure 1 item 28**, and at least one charged particle, **column 8 lines 45-56**, said charged particle having an optical property, **column 7 lines 14-17, column 8 lines 45-56**;

and two electrodes disposed on said substrate adjacent said at least one of said plurality of cells and positioned in a spaced apart relationship to one another, **figure 9 and 11, items 62 and 64**

wherein a potential difference between said electrodes causes said at least one charged particle to migrate toward at least one of said two electrodes, thereby effecting a change in a visual state of said display, **column 7 lines 40-51, column 15 lines 26-63**.

However Bryning et al. fails to explicitly teach of said display medium comprising a plurality of cavities dispersed in a polymeric matrix.

Ota teaches of a plurality of cavities dispersed in a polymeric matrix, figure 8b item 39 or figure 8c item 40, column 7 lines 13-33, figure 13 item 42, column 10 lines 7-21.

Both Bryning et al. and Ota teach of matrix addressable electrophoretic displays comprising a polymeric matrix including electrophoretic migrating particles,

caused to change the displays visual state based on the application of an electric field to the matrix by a set of pixel addressing electrodes. Therefore the features of Bryning and Ota are combinable with the other as features known in the art to be useful in providing electrophoretic displays. Wherein Ota teahes of all the elements of claim 15 with the exception of the two electrodes being disposed on the same substrate. While in a broad interpretation of the claims Ota's electrodes placed on either side of the electrophoretic medium can be said to be disposed on the substrate under and over the electrophoretic medium, Bryning was used to teach the main feature of the adjacent electrodes on the same substrate, while Ota provides known features of electrophoretic displays that can be used advantageously in Bryning.

The cavities of Ota are equivalent in function to the cells of Bryning et al. and are both known to be dispersed in a polymeric matrix as taught by Ota, wherein the cavities 42 dispersed in suspension layer 22 correspond to pixels in Ota as shown in figure 12c, and as well the cells 12 of Bryning, correspond to pixels in Bryning et al., column 10 lines 50-60, and therefore because the suspension layer 41 having cavities 42 of Ota serves the same purpose of the cells of Brying et al., **it would have been obvious to the skilled artisan** at the time of the invention to provide the cavities of Ota, dispersed in the electrophoretic medium of Bryning because Ota and Bryning suggest such a configuration is useful for producing an electrophoretic display system, as found in claim 15.

As in claim 16, Bryning in view of Ota teaches, wherein said suspending fluid is substantially transparent, Ota, column 4 lines 45-65, figure 4a item 15, wherein the suspending fluid of Ota is equivalent to the non polar phase of Bryning.

As in claim 17, Bryning in view of Ota teaches, wherein said at least one charged particle has a black color, Ota, column 4 lines 45-65.

As in claim 18, Bryning in view of Ota teaches, wherein said at least one charged particle has a white color, Ota, column 4 lines 45-65.

As in claim 19, Bryning in view of Ota teaches, wherein one of said two electrodes is substantially transparent, Ota, column 5 lines 10-20

As in claim 20, Bryning in view of Ota teaches, wherein both of said two electrodes are substantially transparent, Ota, column 2 lines 50-55, column 5 lines 10-20.

As in claim 21, Bryning in view of Ota teaches, wherein said two electrodes differ in an optical properly, Ota, column 5 lines 10-20.

As in claim 22, Bryning in view of Ota teaches, wherein one of the electrodes is black and the other electrode is white, **Ota, column 4 lines 46-75**, wherein white and black particles accumulate on opposite transparent electrodes based on their

opposite charges, making the respective electrodes white and black in color, Ota, column 3 lines 50-60, further wherein the electrophoretic material is deposited on the electrode after migrating through a porous layer 12 or spacer cavities 42. Wherein the application of the black and white having different mobilities but the same charge causes a depper white color at the cathode side and a deeper balck color at the anode side. Bryning similarly teaches of particles of varying charge, column 8 lines 45-57.

As in claim 23, Bryning in view of Ota teaches, wherein said at least one charged particle is black and wherein application of a first voltage potential to said black electrode causes said black particles to migrate within said at least one of said plurality of cavities to a location adjacent said black electrode, causing said at least one of said plurality of cavities to appear substantially white, and wherein application of a second voltage potential to said black electrode causes said black particles to migrate within said at least one of said plurality of cavities to a location adjacent said white electrode causing said at least one of said plurality of cavities to appear substantially black, **Ota, column 4 lines 46-75**, wherein white and black particles accumulate on opposite transparent electrodes based on their opposite charges, making the respective electrodes white and black in color, Ota, column 3 lines 50-60, further wherein the electrophoretic material is deposited on the electrode after migrating through a porous layer 12 or spacer cavities 42. Wherein the application of the black and white having different mobilities but the same charge causes a depper white

color at the cathode side and a deeper balck color at the anode side. Bryning similarly teaches of particles of varying charge, column 8 lines 45-57.

As in claim 24, Bryning et al. teaches of an electrophoretic display, **figure 1, 9, and 11,**

comprising: an electrophoretic display medium comprising a plurality of cells dispersed in a polymeric matrix, **column 6 lines 50-60, figure 1 item 12, figure 3 item 12**

wherein at least one of said plurality of cells contains an electrophoretic contrast media phase, **figure 1 items 24, 26,** that includes a suspending fluid, **figure 1 item 28,** and at least one particle having a first optical property, **column 7 lines 14-17, column 8 lines 45-56**; wherein the first optical property is based on the combined color characteristics of the dye 26, the polar phase 24, and the non polar phase 28.

two electrodes adjacent said electrophoretic display medium, each electrode having a second optical property, **figures 9 and 11, items 62 and 64, column 10 lines 37-41**, wherein either of the divided electrodes are two or more and are comprised of metals having a metallic, reflecting, or shielding property;

and at least one electrode having said first optical property adjacent said electrophoretic display medium, **figures 9 and 11, items 66, column 10 liens 37-41**, wherein said electrode 66 is transparent ITO and takes on the optical property of the combined color characteristics of the dye 26, the polar phase 24, and the non polar phase 28.

wherein application of a voltage potential to said two electrodes causes the at least one of said plurality of cavities to change visual state, **column 7 lines 40-51, column 15 lines 26-63**.

However Bryning et al. fails to explicitly teach of said display medium comprising a plurality of cavities dispersed in a polymeric matrix.

Ota teaches of a plurality of cavities dispersed in a polymeric matrix, figure 8b item 39 or figure 8c item 40, column 7 lines 13-33, figure 13 item 42, column 10 lines 7-21.

Both Bryning et al. and Ota teach of matrix addressable electrophoretic displays comprising a polymeric matrix including electrophoretic migrating particles, caused to change the displays visual state based on the application of an electric field to the matrix by a set of pixel addressing electrodes. Therefore the features of Bryning and Ota are combinable with the other as features known in the art to be useful in providing electrophoretic displays. Wherein Ota teahes of all the

elements of claim 15 with the exception of the specific electrode configuration having a first and second optical property. Bryning is used to teach the main feature of the specific electrode configuration having a first and second optical property, while Ota provides known features of electrophoretic displays that can be used advantageously in Bryning.

The cavities of Ota are equivalent in function to the cells of Bryning et al. and are both known to be dispersed in a polymeric matrix as taught by Ota, wherein the cavities 42 dispersed in suspension layer 22 correspond to pixels in Ota as shown in figure 12c, and as well the cells 12 of Bryning, correspond to pixels in Bryning et al., column 10 lines 50-60, and therefore because the suspension layer 41 having cavities 42 of Ota serves the same purpose of the cells of Brying et al., **it would have been obvious to the skilled artisan** at the time of the invention to provide the cavities of Ota, dispersed in the electrophoretic medium of Bryning because Ota and Bryning suggest such a configuration is useful for producing an electrophoretic display system, as found in claim 24.

As in claim 25, Bryning in view of Ota teaches, wherein said two electrodes differ in an optical property, Ota, figure 12c, Bryning, figure 7 item 12, wherein adjacent pixels are different colors and therefore different optical charactertics are provided for the corresponding electrodes of adjacent pixels.

As in claim 26, Bryning in view of Ota teaches, wherein said suspending fluid is dyed, Bryning, column 7 lines 5-17, column 8 lines 13-38, Ota, figure 4a item 15, column 4 lines 45-53.

As in claim 27, Bryning in view of Ota teaches, wherein said suspending fluid is substantially transparent, Ota, figure 4a item 15, column 4 lines 45-53.

As in claim 28, Bryning in view of Ota teaches wherein said at least one particle has a black color, Ota, column 4 lines 55-65.

As in claim 29, Bryning in view of Ota teaches wherein said at least one electrode is substantially transparent, Ota, column 2 lines 50-55, column 5 lines 10-20.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dalisa et al. (4203106), Iwata (4529274), Albert et al. (6664944).

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is **(571) 272-7673**. The examiner can normally be reached on MT and THF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on **(571) 272-7681**. Any

inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571)-273-8300.

4. Please note that all future correspondences directed to David L. Lewis must be sent to Art Unit 2629.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: David L. Lewis
August 29, 2006